



Broad Area Maritime Surveillance (BAMS) Overview

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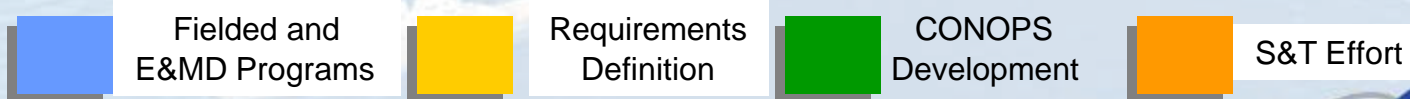
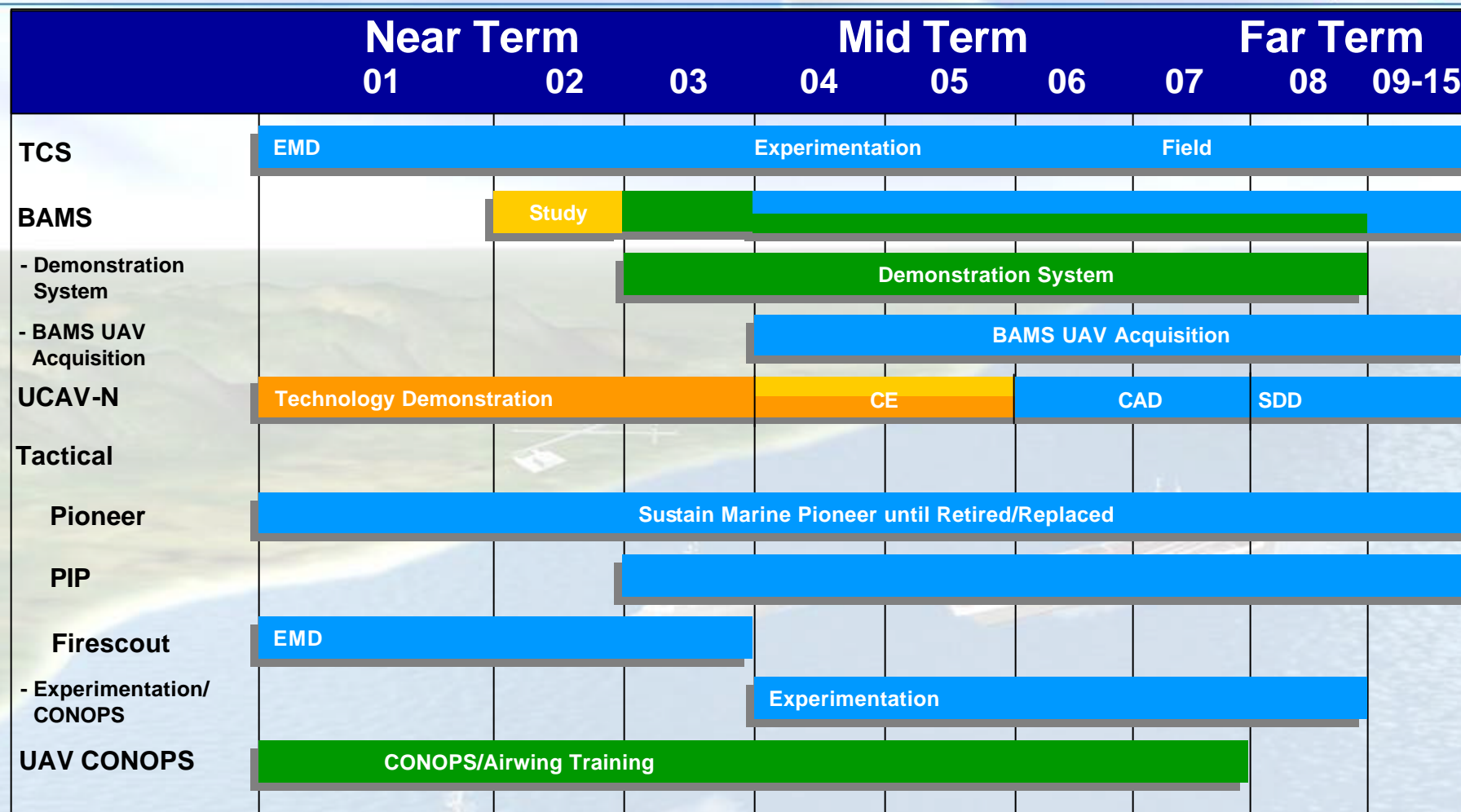
Program Manager

Program Executive Office (W), PMA-263

10 July 2002



NAVAL UAV ROADMAP





NAVAL UNMANNED AERIAL VEHICLES



- Short Term Execution Plan:

Capitalize on existing systems

- ✍ Global Hawk system (purchase / share joint data)
- ✍ USAF Predator (develop Naval CONOPS / share joint data)
- ✍ Dragon Warrior / Sea-All / etc. (develop for Tactical / Force Protection / Anti-Terrorist applications, support ACTDs)

- Long Term Execution Plan:

Develop family of vehicles for Persistent Surveillance in support of Battlespace Dominance

- ✍ Long-dwell Standoff ISR (BAMS UAV)
- ✍ Penetrating Surveillance/SEAD/Strike (UCAV-N)
- ✍ Tactical Surveillance and Targeting (Covers spectrum of UAV's, from Predator B-like capability to Micro-Mini-Expendable)



BACKGROUND

- Recent Global Hawk Experience
 - ✍ U.S Atlantic Command Global Patriot Exercise (Jul 99)
 - ✍ Linked Seas Demonstration Program (May 00)
 - ✍ Global Hawk Joint Forces Exercise (JTFEX) Demonstration Program (May 00)
 - ✍ **Tandem Thrust 01 (Apr -Jun 01)**
- Demonstrations included:
 - ✍ Endurance testing and validation
 - ✍ Sensor operations including direct downlink to fleet units
 - ✍ Remote control of Global Hawk missions
 - ✍ Multi-service data dissemination
- Results:
 - ✍ Long dwell times were critical in covering large areas of open-ocean and littoral area
 - ✍ Basic CONOP valid for maritime applications
 - ✍ Potentially cost effective opportunity to field a maritime unmanned system



BAMS Approach for Maritime Patrol and Reconnaissance (MPR)



• The Broad Area Maritime and Littoral Armed ISR AoA:

- ✍ Examined Ability of land/sea-based manned/unmanned to provide increased capabilities:
 - ✍ Anti-submarine warfare (ASW)
 - ✍ Anti-surface Warfare (ASUW)
 - ✍ Intelligence, Reconnaissance and Surveillance (ISR)
 - ✍ Peacetime access and wartime force concentration
 - ✍ UAV options: Global Hawk, Predator, Notional Large UAV

• Conclusions

- ✍ UAV's NOT envisioned as replacements for manned platforms
- ✍ Properly equipped UAVs may fill shortfalls in the Commander's-in-Chief requirements not currently affordable



Program

TWO PHASED APPROACH

- **Global Hawk Maritime Demonstration System (GHMD)**

- ✍ Leverage USAF contracts to expeditiously procure a robust UAV system
- ✍ Enduring unmanned test bed
 - ✍ Support Development of Naval Doctrine, CONOPS and TTP development
 - ✍ Experiment with alternate sensors: ATR, Comm Relay, SIGINT, Hyper-Spectral, etc...
 - ✍ Study the integration of TCS into Tactical Support Center (TSC) and CVs/Big Decks

- **Broad Area Maritime Surveillance UAV (BAMS)**

- ✍ Traditional requirements-based acquisition program IAW DoD 5000 series instructions
- ✍ Develop maritime capable UAV systems for operational deployment (projected IOC FY 08).
- ✍ AoA, ORD, C4ISP.... Will drive ultimate system configuration
- ✍ Compliment to other Naval Aviation platforms and mission areas (e.g. MMA)



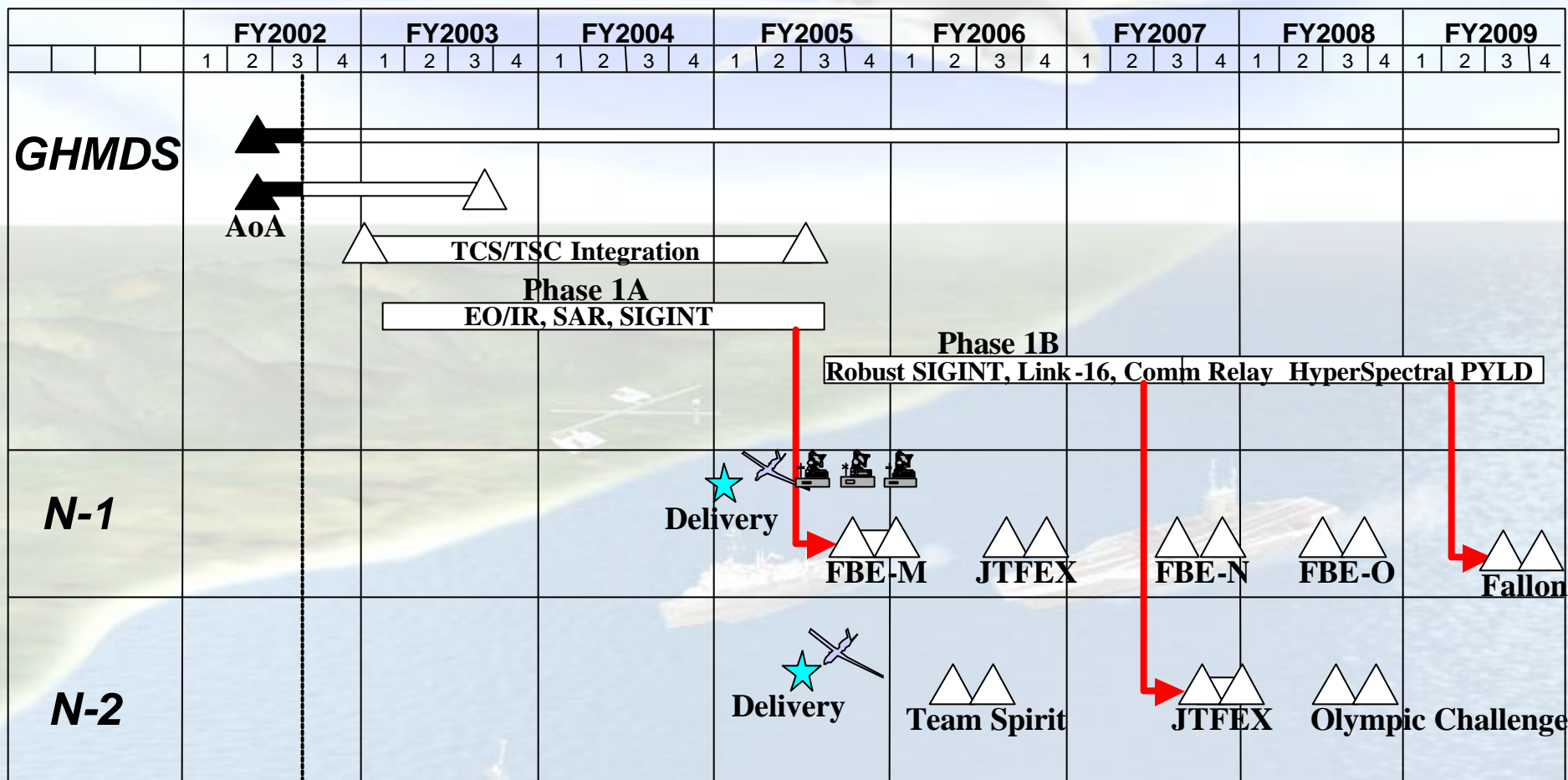
Global Hawk Maritime Demonstration (GHMD)



- 2 Global Hawk Air Vehicles, 2 LREs, and 1 MCE
 - ✍ Air Vehicle #1
 - ✍ Delivered early FY05
 - ✍ A baseline Lot 2 “Tandem Thrust” configuration Global Hawk
 - ✍ Air Vehicle #2
 - ✍ Delivered late FY05
 - ✍ In order to provide an alternate payload capability the second AV will have alternate sensors installed.
 - ✍ 360° radar with SAR/ISAR, GMTI/MMTI
 - ✍ Turreted EO/IR sensor
 - ✍ Cross cueing from the existing ESM to the other sensors
- **Mission Control Element**
 - ✍ FY05 Delivery
 - ✍ MCE Functionality to Support Naval Payloads & Missions
 - ✍ Integrated with Tactical Support Center (TSC)
 - ✍ Imagery and other data products



Global Hawk Maritime Demonstration System Schedule





BAMS Requirements

Mission Needs Statement

- Broad Area Maritime Surveillance (BAMS) Armed ISR
- Long Endurance Reconnaissance, Surveillance Targeting and Acquisition (RSTA)
- Draft Naval Fires Network (NFN)
- Draft Time Critical Targeting (TCT)

Analysis of Comparison

- Leverage existing BAMS Armed ISR AoA

Requirements Documentation

- Completed: MNS, AoA (MMA, GH), MAA, MRE Study
- On-going: CONOPS, C4ISP, ORD, BAMS AOA

IOC – FY08